Docket No: 3140-0025
File No: 1159.41346X00
Client No: MERL-1163

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of :

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FREEMAN *et al.* : Group Art Unit: 2613

:

Serial No. 08/906,493 :

: Examiner: V. Le

Filed: August 5, 1997 :

:

For: VIDEO RECORDING RESPONSIVE TO TRIGGERING EVENT

APPEAL BRIEF

Honorable Commissioner of
Patents and Trademarks
Washington, D. C. 20231

Sir:

This Appeal Brief is submitted in support of the Notice of Appeal filed May 20, 2002.

I. REAL PARTY IN INTEREST

Mitsubishi Electric Information Technology Center America, INC.
Reel 8658, Frame 0436.

II. RELATED APPEALS AND INTERFERENCES

NONE

III. STATUS OF CLAIMS

Claims 1-21 and 32-45 are pending. Claims 37 and 39 have been allowed. Each of claims 1-21 and 32-36 38 and 40-45 is under appeal.

IV. STATUS OF AMENDMENTS

Amendments have been filed on January 31, 2000, September 28, 2001, and April 15, 2002. The amendments have been entered (the April 15, 2002 amendment being entered upon the filing of the Notice of Appeal on May 20, 2002).

V. SUMMARY OF INVENTION

The Applicants' invention relates to a novel recording device for capturing data proximate in time to an event. In the embodiment disclosed in the application, the device records and stores successive frames of video data (see, for example, page 1, lines 7-11).

As recited in independent claim 1 and with reference to a preferred exemplary embodiment shown in Figure 3, the recording device includes at least one memory 58 and a control processor 54. As discussed in detail on page 7, line 17 through page 8, line 31, these two elements work in conjunction to store image data in the memory associated with a time period. Each image represented by the stored image data associated with a portion of the time period closer to an event has a first image resolution, and each image represented by the stored image data associated with a portion of the time period further from the event has a second image resolution, different than the first image resolution (see, for example page 11, lines 40-43 and page 14, lines 15-19).

Dependent claims 2-14 and 32-39 recite further aspects of the invention. Claim

2, requires at least one first sensor type to generate the image data and at least one second sensor type to generate a signal representing the event. An exemplary first type sensor is the video camera 40 depicted in Figure 3 and discussed at page 5, lines 21-31. The second sensor type, described generally on page 8, lines 32 through page 9, line 1, and shown generically as sensor 70 in Figure 3, may be any type of sensor which provides a trigger output signal in response to a condition which is desired to initiate the capture of the data occurring prior to and following the occurrence of the trigger output signal. Examples given in the application include an accelerometer, an air bag deployment sensor of the type normally used in automobiles, a fire alarm used to detect fire or smoke, a security alert sensor used to detect movement, glass breakage or unauthorized entry, and an acoustic sensor to detect specific events such as a gunshot. Further, plural sensors may be employed and data capture may be initiated by any one or a combination of such sensors.

Claim 2 also requires that each image represented by stored image data associated with the portion of the time period closer to the event, have the first image resolution, in response to the second sensor type signal. As discussed on page 7, lines 17-19, the control processor 54 (see Figure 3) controls the storage of data within memory 58. As discussed on page 14, lines 1-24, for example, the memory may be organized into multiple buffer groups so as to obtain the highest resolution image data immediately before and after the trigger event.

Claim 3 recites that the at least one second sensor type includes an accelerometer. As noted above, an accelerator is one of the examples of a second sensor type specifically disclosed on page 8, lines 35-43.

Claim 4 requires that the recording device include a capture switch, which a user can activate to cause the control processor to store only a predetermined amount of data within the memory. As discussed on page 10, lines 8-16, with reference to capture switch 72 of Figure 3, user activation of the capture button can serve as a trigger event in response to which a trigger signal would otherwise be provided by the sensor 70. As

discussed on page 9, lines 2-6, for example, the control processor 54, upon detection of a trigger event from sensor 70, receives only a predetermined amount of additional data and stores such data in the memory 58.

Claim 5 further defines data stored in the device to be video data representing a plurality of frames, and requires control processor 54 to store the video data such that the number of stored frames per unit of time associated with the portion of time the period closer to the event is greater that the number of stored frames per unit of time associated with the time period further from the event. Page 13, line 31, through page 14, line 24, discloses, with reference to Figure 6, one of several storage techniques disclosed for capturing a greater number of video frames immediately before and after an event.

In the exemplary technique illustrated in Figure 6, the data buffers are segregated into two groups of buffers, each organized as a circular buffer. Prior to an event, successive frames of video data are stored in the two circular buffers according to a repeating pattern in which, in this case, two frames are stored in the first buffer followed by storage of a third frame in the second buffer. Prior to the event, an older frame occupying any buffer address may be overwritten by a newer frame sent to that address according to the pattern. After the event, storage of frames follows the same pattern, but pre-event frames are no longer overwritten and post-event frames are stored only until all buffer addresses have been filled. As illustrated in Figure 6, the result of using this technique is that no matter when the event occurs, more frames are stored for time periods closer (both before and after) the event than for time periods further from the event.

Claim 6 is directed to compression of the data prior to storage, as discussed in detail on page 6, line 44 through page 7, line 16, of the application. In a preferred embodiment of the invention, a asymmetric compression technique is used which minimizes the computational load on control processor 54 while data is being stored, at the expense of greater complexity in the later decompression process.

Claim 7 recites that the image data is video data and that the video data is stored at different rates dependent on the occurrence of an event, as discussed on page 12, lines 30-33, with reference to the flow chart of Figure 5.

Claim 8 further recites that the second resolution (associated with the portion of the time period closer to the event) is less than the first resolution (associated with the portion of the time period further from the event). As discussed above in connection with claim 2, the storage of data in memory 58 by the control processor 54 can be organized in a number of ways so as to provide higher resolution for data captured closer to the event (see Figures 6-8 for examples of such storage techniques).

Claim 9 recites that only approximately half the memory is utilized to store data after the event, as discussed on page 13, lines 2-10.

Claim 10 recites that plural sensors, like sensor 40, can be used to generate data, and that plural memories 58,60 can be used to store the data generated by the plurality of sensors, as discussed on page 4, lines 34-37 and page 6, lines 27-30, for example.

Claims 11-14 are further directed to the features of the image sensor 40 used by the inventive device to gather video data, as described at page 4, lines 23-34. Specifically, claim 11 recites that the image sensor 46 may include a charge coupled device to generate the data, claim 12 recites that the device includes a lens 44 to focus an image on the image sensor 46 of claim 11, to cover a viewing angle, claim 13 recites that the image sensor 46 may include an artificial retina, and claim 14 recites that the device includes a lens 44 to focus an image on the artificial retina of claim 13.

As recited in claims 32 and 33, and with reference to Figures 2a and 2b, the recording device may include a portable tamperproof housing 10 for the control processor 54 and the memory 58. As discussed on page 11, lines 16-25, for example, an electronic or mechanical seal may be provided to assure that the data stored in the recording device has not been tampered with prior to viewing. As discussed on page 9, lines 35-39, for example, the weight and power consumption of the inventive device are

low enough that it can be operated portably on small batteries, such as AA cells.

Claim 34 recites that the control processor can purge the contents of the memory upon user activation of a switch. As disclosed at page 10, lines 35-40, the inventive device includes a purge button 76 (Figure 3) connected to the control processor 54, which upon activation of the purge button 76, erases the contents of the memory 58.

Claim 35 specifically requires that the first resolution be exponentially higher than the second resolution. As disclosed at page 11, lines 31-36, an exponential change in resolution may be employed in particular applications in response to a trigger event.

Claim 36 is directed to encryption of the captured data. As discussed at page 10, lines 41-45, the captured data may be encrypted by any suitable encryption algorithm prior to storage in memory.

Claim 38 (as noted above, claims 37 and 39 are allowed and hence not the subject of this appeal) requires that the control processor be operative to compress the image data associated with the portion of the time period closer to and further from the event, at different compression ratios. Resolution is to be distinguished from data compression (see, for example, page 6, lines 44 through page 7, line 16) and rate of data capture (see, for example, page 11, lines 26-31).

Claim 40 requires that the central processor store only a predetermined amount of data following an event. As discussed above, page 9, lines 2-6, for example, discloses this feature.

Independent claim 15 recites a method for recording image data in relation to an event, wherein first image data associated with a time period closer to the event is stored so that each image represented by the stored first image data has a first image resolution, and second image data associated with a time period further from the event is stored so that each image represented by the stored second image data has a second image resolution different from the first image resolution. Claims 16-21 and 40-43, which depend from claim 15, recite further aspects of the method similar to features

discussed above in connection with device of claim 1 and its dependencies. In the interest of brevity, the discussion of these features is not repeated here.

Claims 44 and 45 recite the invention somewhat differently. This device is compact, portable, and has no moving parts. Claim 44 requires a device having a first sensor type that generates image data associated with a period of time (see, for example, page 4, lines 22-27), and a second sensor type that generates a signal representing an event (see page 8, lines 32-35), and includes a processor that stores image data in at least one circular buffer memory (see page 7, lines 17-40). The invention as claimed further requires that each image represented by the stored image data associated with a portion of the time period following receipt of the event signal have a first image resolution, and that each image represented by the stored image data associated with a portion of the time period prior to receipt of the event signal have a second image resolution lower that the first image resolution (see, for example, page 14, lines 1-19). Also required are a portable housing configured to house the processor and the memory (see, for example, Figure 2B, item 10), and at least one connector on the housing for out putting the stored image data (see, Figure 3, item 78, and page 10, lines 46 through page 11, line 15).

Claim 45, which depends from claim 44, additionally requires a user activated capture switch (see Figure 3, item 72, and page 10, lines 8-16), a user activated purge switch (see Figure 3, item 76, and page 10, lines 35-40), a user activated still switch, which allows single video frames to be captured and stored in a protected area of memory (see Figure 3, item 74, and page 10, lines 17-34), at least one power source (see page 9, line 35 through page 10, line 7), and a tamper resistant housing configured to house the sensor gathering the data to be recorded (see Figure 2a, item 10, and page 4, lines 16-25).

VI. ISSUES

Whether (i) claims 1, 2 and 15 are obvious under 35 USC §103(a) over Coiner *et*

al. (U.S. Patent No. 5,638,273) in view of Nishijima (U.S. Patent No. 5,915,069), (ii) claim 3 is obvious under 35 USC §103(a) over Coiner *et al.* in view of Nishijima and Yamawaki (U.S. Patent NO. 5,446,659), (iii) claims 1-2, 4-8, 10-12, 15-19, 36 and 38 are anticipated under 35 USC §102(e) by Nishijima, (iv) claims 9, 20-21, 32-35 and 40-43 are obvious under 35 USC §103(a) over Nishijima, (v) claims 13-14 are obvious under 35 USC §103(a) over Nishijima in view of Freeman (U.S. Patent No. 6,002,808) and Chow (U.S. Patent No. 5,016,633), and (vi) claims 1-4, 15 and 44-45 are obvious under 35 USC §103(a) over Gustin (U.S. Patent No. 5,056,056) in view of Nishijima.

VII. BRIEF DESCRIPTION OF THE REFERENCES

Coiner

As for example disclosed in column 1, line 66, through column 2, line 5, column 2, line 38, through column 3, line 7, column 3, lines 63-65, and column 4, lines 4-7 (see also Figure 1), Coiner describes a system which samples non-image data, referred to as an operational parameter, such as engine temperature, vehicle speed or break activation, at a constant frequency. However, the system stores normal operating data at one frequency and incident data at another higher frequency. For example, if the data is temperature data, the periodicity at which this data is sampled could be every four seconds. However, according to Coiner while the temperature is normal the periodicity at which this data is stored could be set at twelve seconds. When the temperature exceeds a particular threshold the periodicity at which the data is stored could be increased to say four seconds. (emphasis added) All the sampled data at a particular time interval, e.g. at a twelve second interval or at a four second, is stored. Hence, what Coiner categorizes as "resolution" has nothing to do with "resolution" of the data actually stored (i.e. whether detailed or non-detailed data is stored), since that data which is stored is always of the same detail. Rather, "resolution", as used by Coiner, relates to the frequency at which the available detailed data is stored (i.e. the proportion of data recorded). Coiner also discloses multiple non-image data sensors, with the non-image data sensed by these

sensors being thresholded by the processor to determine whether or not an event has occurred.

Nishijima

The applied Nishijima reference describes a video surveillance system in which video signals from a video camera are recorded in compressed form on a recording medium, such as videotape. Compression is performed at a selected one of a plurality of different compression ratios, which may be switched during recording from a relatively high compression ratio to a relatively low compression ratio upon the occurrence of a predetermined condition (see, for example, column 1, lines 59-67). Switching of the compression ratio is carried out in response to the detection of the predetermined condition by one or more sensors (see, for example, Figure 1, items 5-1 and 5-2, and column 2, lines 1-5). The invention of Nishijima is also capable of recording video signals in an intermittent mode (e.g., one frame/second) prior to the occurrence of the predetermined condition, and switch to a continuous mode (e.g., 30 frames/second) upon the occurrence of the predetermined condition. It should be noted Nishijima discloses that the recording of video signals changes from intermittent mode to continuous mode or from high compression to low compression only at the time of occurrence of the predetermined condition (i.e., trigger event), and not before or after (see, for example Figure 4 and column 4, line 65 through column 6, line 6).

Gustin

The applied Gustin reference discloses a system for sensing various operational parameters and is also similar to the above discussed Coiner reference. In particular, Gustin is directed to sensing non-image data (such as pressure or acceleration data) associated, for example, with crash test of vehicles. For example, Gustin describes an acceleration sensor which outputs acceleration data to be stored. As discussed in column 4, lines 9–60, data is continuously written into memory until a start signal is

generated in response to a triggering event. The triggering event is described to occur when the received data exceeds some predetermine threshold. The processor generates a signal representing the event based upon a threshold being exceeded. The start signal is generated based on either a user input or the data itself. Responsive to the start signal, a trigger timer is set which controls the proportion of data recorded before and after the triggering event. In this regard, the data acquisition rate may be adjusted so that, for example, sensed pressures or accelerations that are stored have a variable periodicity.

Yamawaki

The applied Yamawaki reference discloses an accelerometer. More particularly, Yamawaki discloses a sensor which generates acceleration data and a control processor which thresholds such data to determine if an event has occurred. Hence, Yamawaki's sensing and processing are similar to Coiner's sensing and processing.

Freeman

The applied Freeman reference describes a system for rapidly recognizing hand gestures for the control of computer graphics, in which image moment calculations are utilized to determine an overall equivalent image rectangle corresponding to hand position orientation and size (see Abstract). An artificial retina is used advantageously in Freeman because it provides a rapid means of calculating image moments through pre-calculation of x and y projections by the artificial retina chips itself (see column 5, lines 34-40). It is noted that Freeman is a co-inventor in the present application, and that the Freeman patent is also assigned to the real party in interest in this application.

Chow

The applied Chow reference describes an artificial retina comprising a silicon chip device composed of a large array of densely packed micro-photodiodes, which is

intended to be implanted between the inner and outer retina layers in patients suffering from retinal dysfunction, to allow for useful formed vision (see Abstract).

VIII. THE REJECTION

In the Final Office Action dated December 20, 2001, claims 1, 2 and 15 stand rejected under 35 USC §103(a) as obvious over the newly applied combination of Coiner (U.S. Patent No. 5,638,273) in view of Nishijima (U.S. Patent No. 5,915,069). Claim 3 stands rejected under 35 USC §103(a) as obvious over Coiner *et al.* (U.S. Patent No. 5,638,273) in view of Nishijima and Yamawaki (U.S. Patent NO. 5,446,659). Claims 1-2, 4-8, 10-12, 15-19, 36 and 38 stand rejected under 35 USC §102(e) as anticipated by Nishijima. Claims 9, 20-21,32-35 and 40-43 stand rejected under 35 USC §103(a) as obvious over Nishijima. Claims 13-14 stand rejected under 35 USC §103(a) as obvious over Nishijima in view of Freeman (U.S. Patent No. 6,002,808) and Chow (U.S. Patent No. 5,016,633). Claims 1-4, 15 and 44-45 stand rejected under 35 USC §103(a) as obvious over Gustin (U.S. Patent No. 5,056,056) in view of Nishijima.

In a prior final Official Action, claims 1-12, 15-21 and 34-43 stood rejected under 35 USC §102(e) as anticipated by Nishijima (U.S. Patent No. 5,915,069). Claims 13-14, 32-33 and 44-45 also stood rejected under 35 USC §103(a) as obvious over Nishijima in view of Freeman (U.S. Patent No. 6,002,808), and further in view of Chow (U.S. Patent No. 5,016,633).

Grounds for the rejections where originally stated in the Official Action dated July 14, 2000 (Paper No. 9). In the final Official Action of September 26, 2000 (Paper No. 11), the Examiner provided no further rationale for the rejections, stating only that "[c]laims 1-2, 15-21 and 34-43 are rejected under 35 U.S.C. 102(e) as being anticipated by Nishijima, P/N 5,915,069 for the same reasons as set forth in ¶5 of the last Office Action" and that"[c]laims 13-14, 32-33 and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishijima, P/N 5,915,069 in view of Freeman, P/N 6,002,808 and Chow, P/N 5,016,633 for the same reasons as set forth in ¶7 of the last

Office Action."

Rejection of all of the pending claims was maintained in an Advisory Action dated October 25, 1999, replying to a Request for Reconsideration filed on November 22, 2000. In the Advisory Action, the Examiner stated only that the Request for Reconsideration "does NOT place the application in condition for allowance because although the arguments highlight some of the merits of the claimed subject matters, it is viewed that these merits are fully anticipated and/or rendered obvious by the prior art of record." However, the final Official Action was withdrawn in a further non-final Official Action dated June 28, 2001 (Paper 17), in response to an Appeal Brief filed on March 30, 2001 (Paper 16).

In the non-final Official Action of June 28, 2001, all claims were again rejected on the following grounds:

1) claims 1-2 and 15 under 35 USC §102 (e) as anticipated by Coiner (U.S. Patent No. 5,638,273);
2) claim 3 under 35 USC §103(a) as obvious over Coiner in view of Yamawaki (U.S. Patent No. 5,446,659);
3) claims 1-2, 4-8, 10-12, 15-19 and 36-39 under 35 USC §102(a) as anticipated Nishijima (U.S. Patent No. 5,915,069);
4) claims 9, 20-21, 32-35 and 40-43 under 35 USC §103(a) as obvious over Nishijima;
5) claims 13-14, under 35 USC §103(a) as obvious over Nishijima in view of Freeman (U.S. Patent No. 6,002,808) and Chow (U.S. Patent No. 5,016,633);
6) claims 1-4 and 15 under 35 USC §102(b) as anticipated by Gustin (U.S. Patent No. 5,056, 056);
7) claim 44 under 35 USC §102(b) as anticipated by Gustin; and
8) claim 45 under 35 USC §103(a) as obvious over Gustin.

A response to the non-final Official Action of June 28, 2001 was filed on

September 28, 2001 (Paper 18). In the response, the independent claims, and certain dependent claims, were amended for clarification and to delete unnecessary limitations, and to rewrite claims 37 and 39 to recite features relating to the generation of the data stored at different resolutions. The response also presented remarks in support of the traversal of all the claim rejections.

In a still further Final Official Action issued December 20, 2001 (Paper 19), all claims (other than claims 37 and 39) are again rejected on the following grounds:

1) claims 1-2 and 15 under 35 USC §103(a) as obvious over Coiner in view of Nishijima;
2) claim 3 under 35 USC §103(a) as obvious over Coiner in view of Nishijima and Yamawaki;
3) claims 1-2, 4-8, 10-12, 15-19, 36 and 38 under 35 USC §102(e) as anticipated by Nishijima;
4) claims 9, 20-21, 32-35 and 40-43 under 35 USC §103(a) as obvious over Nishijima;
5) claims 13-14 under 35 USC §103(a) as obvious over Nishijima in view of Freeman and Chow; and
6) claims 1-4, 15 and 44-45 under 35 USC §103(a) as obvious over Gustin in view of Nishijima.

Furthermore, in responding to the previously-submitted traversal arguments, the Examiner initially states "applicants' arguments with respect to claims 1-21 and 32-45 have been considered but are moot in view of the new ground(s) of rejection." However, beginning on page 5 of the final Official Action, the Examiner apparently reconsiders this position and provides such further reasoning for maintaining the rejection in view of the previously-submitted traversal of the arguments as:

1) "it is well known in the art that error detection/correction necessarily involves encryption" (see first full paragraph on page 6 of the final Official Action);

2) "This feature is trivial and has no patentable weight" (see last line of second full paragraph on page 6 of final Official Action);

3) applicants' arguments pertaining to claims 13-14 as presented in the brief [*i.e.*, the prior Appeal Brief] are non-persuasive. Applicants cannot show non-obviousness by attacking references individually whereas the rejections are based on combinations of references" (see third full paragraph on page 6 of final Official Action); and

4) "Re: Claim 3, Gusting discloses the same as claimed (col. 4, lines 34-37)" (See page 7 of final Official Action.)

A response to the final Official Action of December 20, 2001 was filed on April 15, 2002 (Paper 20). In the response, objected to claims 37 and 39 were rewritten in independent form. The response also presented remarks in support of the traversal of all the claim rejections.

In an Advisory Action dated May 1, 2002, in reply to the After Final Amendment (filed on April 15, 2002 and entered upon the filing of the Notice of Appeal in support of which this Appeal Brief), the Examiner states "Applicant's introduction of the dictionary meaning of the word 'resolution' is noted, however, the Examiner finds the approach as 'muddling' the issues. Importantly, the Examiner is more concerned that each word in a claim is given its broadest reasonable interpretation consistent with the specification (emphasis added). M.P.E.P. § 2111.01. Since Applicant is entitled to be his/her own lexicographer in drafting claim language, a defined word in a claim even though has a literal 'dictionary' meaning does not always imply whether such word is consistent with what the specification discloses. The Examiner does not go about contemplating if a word in a claim meets the dictionary meaning. When Applicant attempts to provide what the dictionary meaning of a word in a claim means, he/she effectively renders the specification insignificant in defining what the word really means."

The Examiner goes on to address the arguments submitted in the Request for Reconsideration in support of the position that the amendments made in the response

filed on September 28, 2001 (Paper No. 18) were solely for clarification and not for purposes of overcoming the rejection. The Examiner asserts:

"It is viewed that 'data' and 'image data' are not the same. When Applicant amended the word 'data' to 'image data' in independent claims 1, 15 and 44, it is viewed that Applicant did not do so simply for 'clarification' as asserted, but for the purpose of overcoming the prior art reference to Coiner. Applicant's arguments on page 6, 2nd ¶ of Amendment filed September 28, 2001 (Paper No. 18) reinforces this. In the Amendment, Applicant states that 'no where in the referenced text does Coiner discuss or in any way disclose his data to be image data' (emphasis added). The Examiner reads this as an attempt to overcome the prior art reference to Coiner because clearly Coiner does not teach 'image data'. Furthermore, independent claims 1, 15 and 44 did not recite 'image data' until after Coiner was applied in the prior art rejection. For the sake of argument, even assuming that changing the word 'data' to 'image data' is simply for clarification as stated by the Applicant, the word 'resolution' would have led one skilled in the art to conclude that the word 'data' would inherently or impliedly (by dictionary definition) mean image data. If this is true, then what difference does it make whether to change the word 'data' to 'image data'? Thus, by amending independent claims 1, 15 and 44 to reflect 'image data', Applicant has recognized that Coiner fails to teach this more narrow limitation. Thus, the amendment to claims 1, 15 and 44 to reflect image data would have rendered the grounds for rejection based on Coiner moot."

In addressing issues raised regarding the Examiner's compliance with the Commissioner's mandates under the rules of practice, the Examiner asserts:

"Applicant laments that prosecution has been lengthy without reaching a 'clear issue'. It is regrettable that prosecution has taken this long without fruitful result. However, the lack of 'clear issue' as asserted is refuted. The fact that Applicant amended around the Coiner reference shows that Applicant understands what some of the issues are. Furthermore, the Examiner did identify in the last Office Action (Paper

No. 19) what are allowable subject matters, and Applicant responded positively to that. Therefore, there is no lack of a clear issue as asserted. With respect to lengthy prosecution history, again, it is regrettable, but to suggest that this is a result of the lack of 'cooperation of the Examiner' is unwarranted. Granted, the Examiner reopened prosecution after Applicant filed the Appeal Brief (Paper No. 16). This Action was the result of Applicant's persuasive arguments presented in the Brief, not because the Examiner was being uncooperative. Even when the Examiner reopened prosecution and introduced new grounds of rejection (Paper No. 17), Applicant was reminded and had ample opportunity to choose (see ¶1 of Official Action, Paper No. 17) whether to reply to this new ground under 37 C.F.R. §1.111 or to request reinstatement of the Appeal under 37 C.F.R. 1.193(b)(2). Applicant chose the former and submitted an Amendment (Paper No. 18) in response to the new grounds of rejection. Thus, this contributes to a longer than customary prosecution of a case. However, the length of patent prosecution is not a measure of patentability."

In addressing the substance of the arguments presented in the response filed on December 20, 2001, the Examiner states "for the rest of the arguments presented, they have been previously considered. If Applicant wishes to expedite prosecution of this application, then it is recommended that Applicant pursues the claimed subject matter which is consistent with what has been identified as patentable over the prior art of record."

IX. GROUPING OF CLAIMS

Each of appealed claims 1, 15 and 44 is in independent form. The various claimed embodiments/implementations of the invention are defined within groupings of claims (i) 1-14, 32-36, 38 and 40, (ii) 15-21 and 41-43, and (iii) 44-45. However, the claims of each group do not stand or fall together. Each of claims 1, 2, 3, 4, 5, 8, 10, 12, 13, 14, 15, 18, 19, 34, 35, 36, 39, 40, 43, 44 and 45 recite features which form an independent basis for allowance. Hence, claims 1, 6-7, 9, 11, 32-33, and 37-38 stand

and fall together, claim 2 stands and falls alone, claim 3 stands and falls alone, claim 4 stands and falls alone, claim 5 stands and falls alone, claim 8 stands and falls alone, claim 10 stands and falls alone, claim 12 stands and falls alone, claim 13 stands and falls alone, claim 14 stands and falls alone, claims 15, 16-17, 20-21 and 41-42 stand and fall together, claim 18 stands and falls alone, claim 19 stands and falls alone, claim 34 stands and falls alone, claim 35 stands and falls alone, claim 36 stands and falls alone, claim 39 stands and falls alone, claim 40 stands and falls alone, claim 43 stands and falls alone, claim 44 stands and falls alone, and claim 45 stands and falls alone.

X. ARGUMENT

Appellants respectfully traverse the rejections based on the prior art applied against the claims now pending on appeal. As discussed below in detail, it is respectfully submitted that the Examiner has not provided applicants with a full and fair hearing, or met the burden of proof in establishing that the appealed claims are anticipated or obvious. It is further respectfully submitted that the rejection relies upon art that has been combined without any motivation to do so. It is additionally respectfully submitted that the final rejection lacks the requisite supporting factual basis and/or reasonable rationale, and accordingly cannot be understood. Further still, it is respectfully submitted that the art applied in rejecting the claims neither teaches nor suggests the claimed invention. It is also respectfully submitted that recited limitations have been ignored and the relied upon art has been construed in a manner inconsistent with its own teaching and the rejection is at best based on an improper hindsight reconstruction of the claimed invention.

1. LACK OF DUE PROCESS IN THE EXAMINATION

Due process of law requires that applicants receive a full, fair and impartial hearing. In the prosecution of a patent application, this requires that Official Actions, such as those rejecting claims, be made on the basis of objective evidence and sound

reasoning. Official Actions should not be made arbitrarily or based on unsupported speculation and the like. Due process also mandates a fair opportunity to be heard. Hence, in the prosecution of a patent application, applicants should be given a chance to respond to Official Actions setting forth the basis for rejection of the claims and the arguments presented in such a response should be given due consideration prior to final Action being taken. See for example, ***In re De Blauwe***, 736 F.2d 699, 222 USPQ 191 (Fed. Cir. 1984); ***In re Ludtke***, 441 F.2d 660, 169 USPQ 563 (CCPA 1971).

A. Clearly Defined Issue for Appeal

MPEP §706.07 requires that "before final rejection is in order a clear issue should be developed between the Examiner and applicant." Indeed, the Manual states that "the references should be fully applied" (emphasis added), so as to deal justly with the applicant as well as the public. The Manual goes on to state that "present practice does not sanction hasty and ill-considered final rejections". "The applicant who is seeking to define his or her invention in claims that will give him or her the patent protection to which he or she is justly entitled should receive the cooperation of the examiner to that end." "The examiner should never lose sight of the fact that in every case the applicant is entitled to a full and fair hearing, and that a clear issue between applicant and examiner should be developed, if possible, before appeal."

The application to which this appeal relates has been in prosecution for over four years. The case history evidences that the Examiner had previously issued a Final Office Action rejecting all claims, which was subsequently withdrawn by the Examiner on the basis of the filing of an earlier Appeal Brief. Subsequent to the withdrawal of the first Final Official Action in view of the previously filed Appeal Brief, the Examiner issued a further non-final Official Action rejecting all claims. These claim rejections were rebutted in the traversal arguments filed in response thereto. Thereafter, in issuing another Final Office Action, the Examiner asserts, on page 2 thereof, that the rebuttal arguments with respect to claims 1-21 and 32-45 are moot in view of still new grounds

of rejection. The Examiner goes on to assert new combinations of art, all of the prior art now being applied having been of record in this case for over two years (since April 2000), in support of this most recent final rejection of the claims.

It is respectfully submitted that the history of the present prosecution shows that the Examiner has persistently changed his position with respect to the rejection of claims. A "clear issue" has never been reached with respect to the rejection of various claims, since the Examiner has applied and withdrawn various prior art references and combinations of references throughout the prosecution history. As noted above, MPEP Section 706.07 clearly requires that "before final rejection is in order, a clear issue should be developed between the examiner and applicant." It is perhaps worth highlighting that the Manual explicitly states that "switching...from one set of references to another by the examiner in rejecting in successive Actions claims of substantially the same subject matter, will...tend to defeat attaining the" goal of reaching a "clearly defined issue for an early termination." In the present instance, the Examiner's "switching...from one set of references to another" has thus defeated the stated goal of reaching a clearly defined issue.

Indeed, by making the action of December 20, 2001 final, applicants have clearly not been provided with the "cooperation of the Examiner" required by MPEP Section 706.07 defining the invention by claims that will give applicants the patent protection to which they are "justly entitled." Constantly changing the basis for rejection has placed applicants in a position of responding first to one point and then to another without reaching a clear issue.

MPEP Section 706.07(a) specifically instructs an Examiner that second or subsequent Office Actions shall be final "except where the examiner introduces a new ground of rejection not necessitated by amendment of the application by applicant, whether or not the prior art is already of record." In the present instance, although the applied art has been of record throughout the substantive examination, certain rejections based thereon have been previously withdrawn on the basis of the prior

Appeal Brief, while others assert new combinations which can only reasonably be considered to constitute "new grounds" of rejection.

The mere fact that claims have been amended does not, in and of itself, justify changing the grounds of rejection. Thus, MPEP Section 706.07(a) gives one example of an amendment which does not justify changing of the grounds. Specifically, amendment to overcome a rejection under USC §112 is reasonably expected to lead to modification of the claims. In the present instance, the amendment to the independent claims did not change the scope of the claims in response to the previous Official Action, but instead, presented a clarification because the Examiner apparently misunderstood the claim language. Thus, these amendments merely presented the contents of the previously-pending independent claims in a more understandable fashion for the Examiner's benefit.

Had the Examiner responded by providing reasonably understandable arguments rebutting the traversal arguments presented in response to the prior non-final Official Action and maintained the rejection of the claims on the same basis as previously asserted, an issue would have been reached. However, the Examiner instead choose to introduce new grounds for rejection.

Thus, after over four years in prosecution, including withdrawal of the first Final Official Action rejecting all claims in view of the filing of the Appeal Brief traversing the final rejections, still further new combinations are presented in support of still another Final Office Action rejecting virtually all claims (including independent claims 1, 15 and 44), and the issues in this case remain unfocused and the basis for rejection remains unclear.

Looking only at independent claims 1, 15 and 44, the applied combinations are as follows:

CLAIMS 1 AND 15

1) first rejected and finally rejected as anticipated by Nishijima (U.S. Patent No. 5,947,711), but withdrawn on basis of prior Appeal Brief;

2) next rejected as anticipated by Coiner (U.S. Patent No. 5,638,273), as anticipated Nishijima (U.S. Patent No. 5,915,069), and as anticipated by Gustin (U.S. Patent No. 5,056, 056); and

3) now finally rejected as obvious over Coiner in view of Nishijima, as anticipated by Nishijima, and as obvious over Gustin in view of Nishijima.

CLAIM 44

1) first rejected and finally rejected as obvious over Nishijima in view of Freeman (U.S. Patent No. 6,002,808) and in further view of Chow (U.S. Patent No. 5,016,633), but withdrawn on Appeal;

2) next rejected as anticipated by Gustin; and

3) now finally rejected as obvious over Gustin in view of Nishijima.

It is perhaps worth noting again here that all of the applied art has been of record in this file since the first substantive office action which issued in April of 2000.

B. Fair Hearing

As discussed on page 7, lines 37-40 of the present application, storage requirements for a particular frame are independently affected by resolution of the image sensor, sampling rate of the A/D conversion and the selected compression rate or ratio. That is, the resolution of an image and compression of the image at that particular resolution, are entirely different.

As discussed on page 16 of the prior Appeal Brief filed in this case, "resolution relates to the sharpness of the image, and is usually expressed in terms of the total number of pixels (i.e., picture elements, as measured across and down each video frame), that comprise the image (see, for example, Dictionary of Computer Terms, Barron's 3rd Edition, p. 288). Compression rate or ratio, on the other hand, relates to the amount of data that will be used to represent the image (whatever the resolution of that image). Compression is often performed to conserve storage space (see, for

example, definition of data compression at Tech Dictionary.com)."

However, notwithstanding the evidence found within the application disclosure itself and in extrinsic sources identified in prior responses (including the Appeal Brief previously filed in this case) and the Examiner's obligation to ascertain the scope of the claim when reasonably interpreted in light of the supporting specification (see, for example, ***In re Moore***, 439 F.2d 1232, 169 USPQ 236 (CCPA 1971); ***In re Hammack***, 427 F.2d 1378, 166 USPQ 204 (CCPA 1970)), the Examiner has persisted in rejecting the claims on the basis that the claimed varying of the resolution of stored data is equivalent to the varying of the compression rate or periodicity of acquisition and/or storage of data as disclosed in the applied prior art.

The Examiner has not provided any objective evidence to contradict the evidence presented in the application and prior responses. Instead, the Examiner has chosen to ignore the objective evidence and maintain an unsupported position contrary thereto. Thus, the Examiner's rejection of the claims in this case can only be viewed, at best, as arbitrary, since the rejections are supported by neither the objective evidence within the record or any reasonable rationale.

There is also other evidence in the record of the lack of due process received in the prosecution of the subject application. For example, in the Final Official Action to which this Appeal relates, the Examiner contends that the arguments pertaining to claims 13 and 14, which were presented in the prior Appeal Brief, are considered to be non-responsive. One can only ask why, if this were true, the Examiner would not have raised this issue in the first Non-Final Official Action issued after withdrawal of the first Final Official Action in view of that Appeal Brief? The Examiner also asserts that it is well known in the art that error detection/correction necessarily involves encryption as asserted. Here again, one can only ask why, in four years of prosecution, has the Examiner been unable or unwilling to identify any prior art which would support this bald assertion?

C. Right To Be Heard

The Examiner asserts that claims 1-2, 7, 15, 19 and 44 were amended in the response filed on September 28, 2001 to overcome the rejection. The Examiner apparently reaches this conclusion based on the substitution of "image data" for "data" in the amended claims.

However, each of these claims has always required limitations on the resolution of the data. As, for example, defined in the American Heritage College Dictionary, 3rd Edition (Houghton, Mifflin Company, Copyright 1997, 1993) resolution is defined as "the fineness of detail that can be distinguished in an image, as on a television." Further, the term "data" must be construed in light of the specification which explicitly discloses that the recited resolution limitations relate to the resolution of an image.

It is further respectfully submitted that in the context of the claim language prior to amendment, those skilled in the art would clearly have understood that the required "resolution" relates to the resolution of an image, represented by the data and hence that such data would be what is commonly referred to as "image data".

Hence, the only reason for the claim amendments was to clarify the claim language consistent with the specification, in order to assist the Examiner in understanding of the claim limitations. The clarification clearly did not change the scope of the claims. In fact the clarifications are entirely consistent with the arguments presented in traversal of the earlier rejections. Thus, these clarifications did not require that the Examiner apply the new combinations of art. Rather, the Examiner has, for reasons which remain unclear, sprung new grounds for rejection on the applicants, labeling it final in the most recent Final Official Action, and thereby deprived applicants of their due process rights by denying them the opportunity to respond to these new grounds for rejection.

Based on the above, it is respectfully submitted that applicants have been deprived of their rights to due process under law due to the Examiner's persistent rejection of the claims without any reasonable basis to do so and in a manner which

effectively denies applicants their right to be heard, as well as the Examiner's failure to comply with the mandates of MPEP 706.

2. THE EXAMINER HAS FAILED TO ESTABLISH A PRIMA FACIE CASE

The initial burden of establishing a basis for denying patentability to a claimed invention rests upon the examiner. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Thorpe, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985); In re Piasecki, 745 F.2d 1468, 223 USPQ 785 (Fed. Cir. 1984).

The limitations required by the claims cannot be ignored. See In re Wilson, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970). This mandate applies to all limitations, including one which is functional. See In re Oelrich, 666 F.2d 578, 212 USPQ 323 (CCPA 1981). All words in a claim must be considered in deciding the patentability of that claim against the prior art. Each word in a claim must be given its proper meaning, as construed by a person skilled in the art. Where required to determine the scope of a recited term, the disclosure may be used. See In re Barr, 444 F.2d 588, 170 USPQ 330 (CCPA 1971).

Furthermore, the Examiner must provide sufficient factual basis or rationale as to how features of the invention recited in the claims are taught or suggested in the applied art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988).

Independent claim 1 requires, *inter alia*, a control processor operative to store the data in the at least one memory, such that each image represented by the stored data associated with a portion of the time period closer to an event has a first image resolution and each image represented by the stored data associated with a portion of the time period further from the event has a second image resolution different than the first resolution.

Independent claim 15 requires storing first image data associated with a time period closer to an event, wherein each image represented by the stored first image data has a first image resolution, and storing second image data associated with a time period

further from said event, wherein each image represented by the stored second image data has a second image resolution different than the first resolution.

Independent claim 44 requires, *inter alia*, a control processor operative to store data, such that each image represented by the stored data associated with a portion of a time period after receipt of an event signal has a first image resolution and each image represented by the stored data associated with a portion of the time prior to receipt of the event signal has a second image resolution lower than the first resolution.

Although each of the independent claims of the present application requires stored image data, representing images of different image resolution, two of the three primary references applied, i.e. Coiner and Gustin, discuss only non-image data. Furthermore, none of the three primary references, nor any other applied reference, whether taken individually or in any combination, suggests the storage of data representing different resolution images.

Coiner discloses storing non-image data, such as data representing temperature values. Although the periodicity of storage of the sensed temperature values may vary, each temperature value represented by the stored data is always of the same detail, i.e. the stored data fully represents the sensed value. That is, according to Coiner, while the temperature is normal the periodicity or frequency at which temperature data is stored could be set at twelve seconds. The periodicity or frequency at which the data is stored could then be increased to fewer than twelve seconds when the temperature exceeds a particular threshold. However, in either case, the stored data fully represents the sensed value at the particular time interval, be it twelve seconds or less than twelve seconds. Hence, what Coiner characterizes in column 2, lines 57-60, as a resolution change, has nothing to do with content resolution (such as the fineness of detail of an image) or anything corresponding thereto, but rather, with frequency over time at which data representing temperature values are sampled (i.e. acquired) and stored.

Gustin discloses a system for sensing various operational parameters, and is similar to the above-discussed Coiner reference. Gustin is directed to storing non-

image data (such as pressure or acceleration data). As discussed in column 4, lines 9-60, the data acquisition rate may be adjusted so that the sensed and stored pressure or acceleration values have a variable periodicity or frequency. Like Coiner, Gustin stores data which always fully represents the sensed parameter, i.e., pressure or acceleration value that has been acquired at the applicable frequency of periodicity.

Nishijima stores image data which, as summarized by Nishijima in column 9, line 64 through column 10, line 38, is compressed at different compression rates to extend the recording time of a standard length magnetic tape or other recording medium. Nishijima explicitly discloses that a quantization table can be changed or other techniques, such as intraframe/interframe encoding, may be utilized to vary the compression rate at which a video signal is compressed. However, Nishijima does not in any way suggest that the selected compression rate will effect the ultimate resolution of the image. Rather, as is well understood in the art, the storage of image data compressed at different compression rates has nothing whatsoever to do with storing image data at different resolutions. Nishijima's disclosure does not in any way suggest or imply that the compressed data represents images of different resolution, and the Examiner has failed to provide any objective evidence that is does. Furthermore, in four years of prosecution, and notwithstanding repeated requests to do so, the Examiner has failed to identify any art which suggests, let alone teaches, that a variation in the compression rate will result in a variation of image resolution.

Thus, the Examiner has yet to apply art in support of a final rejection which even discusses a variation in the resolution of a stored image. Rather, the Examiner continues to apply references which disclose varying the periodicity of acquisition and/or storage of data or varying of the compression rate of stored data, without providing any objective evidence or reasonable rationale as to how the applied art disclosures could be construed to anticipate or make obvious the storage of data so as to represent images having different resolutions.

Still further, in some cases, the Examiner has chosen to completely ignore features of the rejected claims or to apply the prior art in a manner inconsistent with its own teachings.

For example, claim 19 requires that the stored first and second data be first and second video data, and that the stored first video data have a first frame rate and the stored second video data have a second frame rate. In rejecting claim 19, the Examiner points to the rationale used in rejecting claims 1 and 15 as anticipated by Nishijima. However, claims 1 and 15 do not recite any limitation on frame rates.

Claims 35 and 43 require a first resolution which is exponentially higher than the second resolution. In rejecting these claims, the Examiner again points to the rationale used in rejecting claims 1 and 15 as anticipated by Nishijima. However, claims 1 and 15 do not recite an exponential relationship between resolutions.

Claim 2 requires one sensor type to generate data and another sensor type to generate a signal representing an event. The referenced sections of Coiner in column 2, lines 38-52, and column 4, lines 4-7, disclose multiple data sensors 102 (i.e. sensors of the type which generate data) but lack any disclosure of a sensor of the type capable of generating a signal representing an event. Rather, Coiner explicitly discloses (see, for example, Figures 1 and 5 and column 2, lines 37-51, column 4, lines 40-41, and column 5, lines 24-28) that the sensed data is thresholded by the CPU 108 to determine whether or not an event has occurred.

Claim 3 requires that the at least one second sensor type of claim 2 include an accelerometer. The Examiner points to Yamawaki's accelerometer 3, as described in Figure 1 and column 2, lines 10-23, as corresponding to the required accelerometer. However, Yamawaki explicitly discloses (see, for example, column 2, line 6, through column 3, line 18, and column 7, lines 48-68) that acceleration sensor 3 generates acceleration data and a control means 7 which thresholds such data to determine if an event has occurred. This is similar to Coiner's sensors and processor.

Claim 4 requires a user activated capture switch and a control processor which

stores only a predetermine amount of data after activation of the capture switch. The Examiner points to Nishijima's input keys 3d, and the disclosure in column 4, lines 22-27, and column 8, lines 30-53, as teaching these features. However, Nishijima explicitly teaches that recording stops either when intentionally terminated or when the end of the magnetic tape is reached (see, for example, column 5, lines 58-64). Although, as disclosed in the reference text, the user can input the conditions and requirements for various compression and/or recording modes, such as programming the controller so that video signals are always continually recorded, there is nothing within the referenced text that suggest that a user can activate a switch (or utilize input keys 3d) to thereby limit the amount of subsequently stored data.

Claim 18 requires encrypting the first data and the second data prior to storage, and claim 36 requires the control processor to be operative to encrypt data prior to storage in the memory. The Examiner relies on Nishijima's teachings in column 4, lines 61-64, of error detection and correction, and argues that such teachings inherently involve data encryption. However, error detection and correction relate to detecting and correcting encoding errors, while encryption relates to securing information whether in an encoded or uncoded state. Hence, the relied upon disclosure has nothing whatsoever to do with the required encryption, and there is nothing in Nishijima, or any other applied art, to suggest otherwise.

Claim 34 requires that the control processor be further operative to purge the contents of the at least one memory upon user activation of a switch. In rejecting this claim, the Examiner points to column 3, lines 31-33 of Nishijima, which discloses that the compressed signal is stored on a recording medium, such as a RAM, and on this basis contends that the RAM is purged upon activation of an on-off switch. However, the referenced text lacks any discussion whatsoever of a switch or control processor. Furthermore, the Examiner's contention that the RAM is purged upon activation of an on-off switch is unsupported by the Nishijima disclosure, which is not surprising since

Nishijima would presumably require back-up power to maintain the data in the RAM (if this were the medium), to meet Nishijima's objectives.

Claim 39 requires the control processor be operative to store, on a per unit of time basis, more of the data associated with a portion of the time period closer to an event (whether the portion is before the event, after the event, or both), and less of the data associated with a portion of the time period further from the event. The Examiner points to column 4, lines 28-64, and column 10, lines 31-37 of Nishijima as disclosing DCT/quantization and interframe/intraframe compression techniques which anticipates the recited control processor. However, no reasonably understandable explanation is provided as to how this disclosure of compression could be considered to teach the storage of different amounts of data closer to or further from an event.

Claim 40 requires that the control processor store only a pre-determined amount of data following an event. The Examiner references the input keys 3d and disclosure in Figure 1 and column 8, lines 1-15, of Nishijima in support of the rejection. However, the referenced disclosure simply indicates that different compression ratios and frame rates may be utilized, and lacks any disclosure of pre-determining the amount of data which will be stored after an event.

It is apparent from the above that the Examiner has effectively ignored recited claim limitations or construed the applied prior art inconsistent with its own teachings. Accordingly, the Examiner has failed to provide a reasonable rationale or objective factual support for the final rejection of the claims. Hence, no *prima facie* basis for the rejection of the claims in the Final Official Action has been established. Furthermore, the rejections cannot be reasonably understood.

3. THERE IS NO MOTIVATION TO COMBINE THE ART AS PROPOSED BY THE EXAMINER

It is incumbent upon the Examiner to provide a basis in fact and/or cogent technical reasoning to support the conclusion that one having ordinary skill in the art

would have been motivated to combine references to arrive at a claimed invention. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988). In so doing, the Examiner is required to make the factual determinations set forth in Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 148 USPQ 459 (1966), **and** to provide a reason why one having ordinary skill in the art would have been led to modify the prior art reference to arrive at the claimed invention. Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 227 USPQ 657 (Fed. Cir. 1985). Such a reason must stem from some teaching, suggestion or inference in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley, 837 F.2d 1044, 5 USPQ2d 1434 (Fed. Cir. 1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.d 281, 227 USPQ 657 (Fed. Cir. 1985); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 221 USPQ 929 (Fed. Cir. 1984); In re Sernaker, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983).

A. The Combinations of Coiner, Nishijima and Yamawaki

Claims 1, 2 and 15 stand rejected under 35 USC §103(a) as obvious over the newly applied combination of Coiner (U.S. Patent No. 5,638,273) in view of Nishijima (U.S. Patent No. 5,915,069). Claim 3 stands rejected under 35 USC §103(a) as obvious over Coiner *et al.* (U.S. Patent No. 5,638,273) in view of Nishijima and Yamawaki (U.S. Patent NO. 5,446,659).

In view of the Examiner's acknowledgement that Coiner lacks any teaching or suggestion that the disclosed system is adapted for use with image data, the Examiner proposes to modify Coiner based upon the teaching of Nishijima, to make obvious the claimed invention. The Examiner contends that such a combination and modification would be motivated to "provide an added perspective to data analysis with the benefit of video analysis for more accurate assessment, especially for video data-type applications." However, Coiner does not suggest a need for "video data-type applications", and in fact has no need for such applications since it is only interested in

sensed parameters, such as temperature. Nishijima has no need to and does not suggest a need for "video data-type applications" in a Coiner type system. Hence, there is nothing to suggest in either the description of video signal recording technique disclosed by Nishijima or the non-image data recording technique disclosed by Coiner to motivate the proposed modifications or combination.

Furthermore, it is unclear how or why one would utilize Yamawaki's accelerometer with the Coiner device as proposed by the Examiner with regard to claim 3. More particularly, Yamawaki discloses a sensor which generates acceleration data and a control processor which thresholds such data to determine if an event has occurred. This is similar to Coiner's sensors and processor. Accordingly, neither system uses a sensor to generate a signal representing an event.

Further still, using Yamawaki's acceleration sensor in Coiner would result in unnecessarily storing information, and hence would be contrary to Coiner's objectives. Thus, there is no motivation whatsoever to attempt to include Yamawaki's accelerometer in the Coiner device.

B. The Combination of Nishijima, Freeman and Chow

Claims 13-14, stand rejected under 35 USC §103(a) as being obvious over Nishijima in view of Freeman (U.S. Patent No. 6,002,808) and Chow (U.S. Patent No. 5,016,633).

Claims 13 and 14 require that the recording device of the present invention further comprise an image sensor, including an artificial retina, to generate the data to be recorded. The Examiner admits that Nishijima fails to disclose that the image sensor which includes an artificial retina. However, the Examiner contends that the artificial retina as claimed is a matter of design choice and incorporates well-known art. The Examiner asserts that Freeman and Chow make well known the use of this feature and accordingly can be combined with Nishijima to make the invention of claims 13-14 obvious.

However, Freeman discloses a hand gesture control system that uses an artificial retina as a sensor device in recognizing and distinguishing the shapes formed by human hand gestures. As best understood, the use of an artificial retina is advantageous in this application because it provides a rapid means of calculating image moments through pre-calculation of x and y projections by the artificial retina chip itself (see Freeman, column 5, lines 34-40).

Chow, on the other hand discloses the use of the artificial retina chip in a surgical technique intended to correct certain types of retinal dysfunction.

Hence, neither Freeman nor Chow teach or suggest the use of an artificial retina in an image capturing and storage system of the type described by Nishijima. The purpose of the invention in Freeman is to rapidly determine the characteristics of a hand or other object in the field of view of a sensor so as to be able to provide game control, or any other type of computer display control (see column 5, lines 7-11), and hence, there would be no benefit in recording an image being analyzed. Chow, which involves a medical device and procedure, is non-analogous art. Hence, there is nothing in either Freeman, Chow or Nishijima to motivate the proposed combination and the Examiner has failed to provide any rationale for such a combination.

C. The Combination of Gustin and Nishijima

Claims 1-4, 15 and 44-45 stand rejected under 35 USC §103(a) as obvious over Gustin (U.S. Patent No. 5,056,056) in view of Nishijima.

Gustin discloses a system for sensing various operational parameters and is similar to the above-discussed Coiner reference. Gustin is directed to sensing non-image data (such as pressure or acceleration data). As discussed in column 4, lines 9-60, as with Coiner, the data acquisition rate may be adjusted so that the sensed and stored pressures or accelerations have a variable periodicity or frequency. Also like Coiner, Gustin stores all of the data, such as the pressure or acceleration data, that is acquired at the applicable frequency of periodicity.

In view of the Examiner's acknowledgement that Gustin lacks any teaching or suggestion that the disclosed system is adapted for use with image data, the Examiner proposes to modify Gustin based upon the teaching of Nishijima, to make obvious the claimed invention. The Examiner contends that such a combination and modification would be motivated to "provide an added perspective to data analysis with the benefit of video analysis for more accurate assessment, especially for video data-type applications." However, Gustin does not suggest a need for "video data-type applications", and in fact has no need for such applications since it is only interested in sensed parameters, such as acceleration and pressure. Nishijima has no need to and does not suggest a need for "video data-type applications" in a Gustin type system. Hence, there is nothing to suggest in either the description of the video signal recording technique disclosed by Nishijima or the non-image data recording technique disclosed by Gustin to motivate the proposed modifications or combination.

Accordingly, there is no motivation to combine the prior art on which the Examiner relies in support of the rejection.

4. THE APPLIED REFERENCES FAIL TO TEACH THE CLAIMED INVENTION

Anticipation, under 35 U.S.C. § 102, requires that each element of the claim in issue be found, either expressly described or under principles of inherency, in a single prior art reference. Although anticipation requires that only that the claim under attack "read on" something disclosed in the reference, all limitations of the claim must be found in the reference, or "fully met" by it. See Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 218 USPQ 781 (Fed. Cir. 1983). A rejection under 35 U.S.C. §102 requires the disclosure in a single reference of each element of a claimed invention. *Minnesota Mining & Manufacturing Co. v. Johnson & Johnson Orthopaedics Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992). Moreover, in rejecting a claim under 35 U.S.C. §102, the Examiner is required to identify wherein an applied reference discloses each feature of a claimed invention. *In re Rijckaert*, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993);

Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984).

Claims 1-2, 4-8, 10-12, 15-19, 36 and 38 stand rejected under 35 USC §102(e) as anticipated by Nishijima (U.S. Patent No. 5,915,069).

As previously discussed, compression and resolution are entirely different attributes. This is made clear in the present specification and is well understood by those skilled in the art.

Independent claims 1 and 15 require the storage of image data such that each image represented by the stored data and associated with a portion of the time period closer to an event (whether before, after, or before and after) has a first resolution and each image represented by the stored data and associated with a portion of the time further from the event has a second resolution different from the first resolution.

With regard to the storage of data representing different resolution images, the Examiner points to column 3, line 25, through column 4, line 11, and asserts that the image data can be compressed at several different rates or ratios. The Examiner, as best understood, further contends that storing image data compressed at different compression rates or ratio's results in the images represented by the stored data compressed at the different compression rates/ratio's having different image resolutions.

While it is acknowledged that the apparatus of Nishijima is capable of recording video data at different frame rates and compression ratios, it is respectfully submitted that this does not result in the stored data representing images closer to and further from the event with different resolutions, as required by claims 1 or 15. As discussed on page 7, lines 37-40 of the present application, storage requirements for a particular frame are independently affected by resolution of the image sensor, sampling rate of the A/D conversion and the selected compression rate or ratio. That is, the resolution of an image and compression of the image data at that particular resolution, are entirely different. Resolution relates to the sharpness of the image, and is usually expressed in

terms of the total number of pixels (i.e., picture elements, as measured across and down each video frame), that comprise the image (see, for example, Dictionary of Computer Terms, Barron's 3rd Edition, p. 288). Compression rate or ratio, on the other hand, relates to the amount of data that will be used to represent the image (whatever the resolution of that image). Compression is often performed to conserve storage space (see, for example, definition of data compression at Tech Dictionary.com).

Further, the frame rate, the rate at which individual frames in a sequence of video images are recorded or displayed, does not affect resolution and there is nothing in Nishijima that would suggest that it does.

As further described on page 11, lines 31-37, of the present application, the storing of images closer to and further from a trigger event at different resolutions, is distinct from storing such images at different compression ratios and frame rates. Thus, with regard to the storage, in different resolutions, of represented images closer to and further from an event, the present invention accomplishes its objective in an entirely different manner than the technique disclosed by Nishijima to accomplish its objective.

As noted on page 2, lines 28-36, of the subject application, the A/D converter samples the image data to generate a digital representation of the video image sensor analog output signal. A predetermine number of digital samples comprise one frame. The digitized output signal(s) from the A/D converter(s) is then compressed and stored by the controller. As discussed on page 5, lines 34-41, the support electronics include clock generator which is coupled to the A/D converter to permit the sensor output to be sampled at predetermined intervals to generate a digital representation of the sensor output. This predetermined number of samples comprise a frame. As discussed on page 12, lines 30-33 in the event that adaptive sampling is employed, the sampling rate of the A/D converter (i.e. the rate at which samples are taken to form a single frame or image) is adjusted, thereby modifying the resolution of the images provided to the processor and hence of the images stored in the memory.

With regard to claim 4, Nishijima also lacks any teaching or suggestion of the

user activated capture switch or a control processor which stores only a predetermine amount of data after activation of the capture switch. Rather, Nishijima explicitly teaches that recording stops either when intentionally terminated or when the end of the magnetic tape is reached (see, for example, column 5, lines 58-64). Although, as disclosed in the reference text, the user can input the conditions and requirements for various compression and/or recording modes, such as programming the controller so that video signals are always continually recorded, there is nothing within the referenced text that suggest that a user can activate a switch and thereby limit the amount of subsequently stored data as required by claim 4.

The limitations of claim 8 are also lacking in Nishijima because the different compression ratios of Nishijima do not relate to different image resolutions as has been discussed above.

Claims 18 and 36 require the encrypting of the data prior to storage. The Examiner asserts it is inherent that data encryption is involved in Nishijima because error detection and correction is disclosed at column 4, lines 61-64. Error detection and correction relate to detecting and correcting encoding errors. Encryption, on the other hand, relates to securing information whether in an encoded or non-encoded state. Hence, there is no correspondence between the required data encryption and the relied upon encoding error detection and correction disclosed by Nishijima.

Other claims rejected under §102(e) are also believed to recite features that distinguish over the applied reference. Such features include the number of video frames per unit time represented by stored data associated with the period of time close to the event being greater than the number of such frames for the period further from the event, as recited in claim 5; the memory being a plurality of memories corresponding to the number of sensors, as recited claim 10; and a lens positioned to focus an image on the sensor and to cover a viewing angle, as recited in claim 12.

Hence, the applied Nishijima patent fails to teach, or for that matter suggest, the invention recited in claims 1-2, 4-8, 10-12, 15-19, 36 and 38.

4. THE APPLIED REFERENCES FAIL TO SUGGEST THE CLAIMED INVENTION

In rejecting claims under 35 U.S.C. 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. Stratoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); In re Warner, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967). The Examiner is required to make the factual determinations set forth in Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 148 USPQ 459 (1966),

In determining obviousness, the inquiry is not whether each element existed in the prior art, but whether the prior art made obvious the invention as a whole for which patentability is claimed. Hartness Int'l, Inc. v. Simplimatic Eng'g Co., 819 F.2d 1100, 2 USPQ2d 1826 (Fed. Cir. 1987). It is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. In re Wesslau, 353 F.2d 238, 147 USPQ 391 (CCPA 1951). Piecemeal reconstruction of prior art patents is improper, In re Kamm, 452 F.2d 1052, 172 USPQ 298 (CCPA 1972). The Examiner must give adequate consideration to the particular problems and solution addressed by the claimed invention. Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 15 USPQ2d 1321 (Fed. Cir. 1990); In re Rothermel, 276 F.2d 393, 125 USPQ 328 (CCPA 1960).

The fact that the prior art could be modified so as to result in the combination defined by the claims does not make the modification obvious unless the prior art suggests the desirability of the modification. In re Deminski, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986). The test is what the combined teachings would have suggested to those of ordinary skill in the art. In re Keller, 642 F.2d 413, 208 USPQ 817 (CCPA 1981). Simplicity and hindsight are not proper criteria for resolving obviousness, In re Warner, supra. The proper approach to the issue of obviousness is whether the hypothetical person of ordinary skill in the art, familiar with the references, would have found it obvious

to make a structure corresponding to what is claimed. In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Sernaker, 702 F.2d 989, 217 USPQ 1 (Fed. Cir. 1983).

The issue is not whether it is within the skill of the artisan to make the proposed modification but, rather, whether a person of ordinary skill in the art, upon consideration of the references, would have found it obvious to do so. The fact that the prior art could be modified so as to result in the combination defined by the claims would not have made the modification obvious unless the prior art suggests the desirability of the modification. See In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984), In re Deminski, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986), In re Keller, supra. See In re Laskowski, F2d., 10 USPQ2d 1397 (CAFC 1989).

Claims 1, 2 and 15 stand rejected under 35 USC §103(a) as obvious over the newly applied combination of Coiner (U.S. Patent No. 5,638,273) in view of Nishijima (U.S. Patent No. 5,915,069). Claim 3 stands rejected under 35 USC §103(a) as obvious over Coiner *et al.* (U.S. Patent No. 5,638,273) in view of Nishijima and Yamawaki (U.S. Patent NO. 5,446,659).

Independent claims 1 and 15 require that data be stored such that each image represented by the stored image data associated with a portion of the time closer to an event has a first image resolution and each image represented by the stored data associated with a portion of the time period further from the event and has a second resolution, different than the first image resolution.

The Examiner points to Coiner as disclosing the required storage of data, referencing column 1, line 66 to column 2, line 5, and column 2, line 55 to column 3, line 7. While acknowledging that Coiner lacks any teaching or suggestion that the disclosed system is adapted for use with image data, the Examiner proposes to modify Coiner based upon the teaching of Nishijima, to make obvious the invention of claims 1 and 15.

However, the referenced text indicates that the frequency at which Coiner's non-image data is stored may vary dependent upon whether or not the storage occurs

during normal operational conditions or during the time surrounding an incident or triggered event. Although Coiner characterizes this in column 2, lines 57-60, as a resolution change, the resolution has nothing to do with image resolution (which is the fineness of detail of an image), but, rather, relates to the frequency over time at which data is stored.

Hence, according to Coiner, while the temperature is normal the periodicity or frequency at which temperature data is stored could be set at twelve seconds. The periodicity or frequency at which the data is stored could then be increased to fewer than twelve seconds when the temperature exceeds a particular threshold. However, in either case, all of the sampled data at the particular time interval, be it twelve seconds or less than twelve seconds, is stored.

Furthermore, Nishijima also fails to teach or suggest storing image data at different resolutions. Rather, as summarized by Nishijima in column 9, line 64 through column 10, line 38, Nishijima discloses compressing video data at different compression rates to extend the recording time of a standard length magnetic tape or other recording medium. This has nothing whatsoever to do with storing image data at different resolutions. Rather, as discussed in the referenced text, by using the described compression technique, it is unnecessary to intermittently record the video signal to extend the recording time of the magnetic tape. Thus, continuous recording can be utilized throughout the entire recording process to ensure that every moment of the surveillance is recorded at the same frame rate to provide a recorded video signal that is useful for inspection for viewing and/or processing purposes. If continuous recording is not needed during particular instances, intermittent recording can also be selected to further extend the recording length of the recording medium.

Nishijima goes on to disclose in the referenced text that although changing a quantization table to vary the compression ratio at which a video signal is compressed is discussed, other techniques such as intraframe/interframe encoding techniques may be utilized in place of the quantization cable technique to perform the compression. It is

perhaps worth highlighting that Nishijima does not in any way suggest that the selected compression rate or technique will effect the ultimate resolution of the image.

Accordingly, even if one were motivated to attempt to adapt Coiner's teaching to image data (which is entirely unmotivated by the applied art) and could somehow determine how to modify the components of Coiner's non-image system to sense and record image data (it being entirely unclear as to how this could be accomplished), this would, at best, result in a system which modifies the periodicity or frequency at which images are sensed, but would not in any way result in different resolution images being stored. That is, at best the proposed combination would result in a system which varies the rate at which image data is acquired and stored, and would not result in the storage of image data having different image resolutions.

Claims 9, 20-21, 32-35, and 40-43 stand rejected under 35 USC §103(a) as obvious over Nishijima. Claims 13-14, stand rejected under 35 USC §103(a) as being obvious over Nishijima in view of Freeman (U.S. Patent No. 6,002,808) and Chow (U.S. Patent No. 5,016,633).

Claim 34 requires that the control processor purge the contents of the memory upon user activation of a switch. The text of Nishijima referred to by the Examiner lacks any suggestion of such a switch or control processor. Further the Examiner's contention that the RAM is purged upon activation of an on-off switch is unsupported by the referenced text, which fails to disclose any such switch. Further, even if there were such a switch, presumably back-up power would be provided to maintain the data in the RAM and meet Nishijima's objectives.

Claims 35 and 43 require the first resolution to be exponentially higher than the second resolution. The Examiner asserts that in Nishijima, the compression ratio (and correspondingly, the image resolution) varies from high, to intermediate, to low, and that this can be read as having "exponentially" higher image resolution, as claimed. As described on page 11, lines 32-36, of the present application, an exponential change in resolution may be employed in response to a triggering event. Nishijima discloses that a

number of compression ratios are available after the event, but lacks any teaching or suggestion of a resolution that varies exponentially over time based on an event.

Claim 40 requires that the control processor be operative to store only a predetermined amount of data following the event. The limiting of the storage to a predetermined amount of data following the event allows any desired percentage of the memory to be used for capturing image data after the occurrence of the event. Nishijima explicitly teaches that recording stops only when either intentionally terminated or the end of the magnetic tape is reached, and lacks any teaching or disclosure of storing only a predetermined amount of data within the memory after an event. In the text referenced by the Examiner in support of the rejection, Nishijima simply indicates that different compression ratios and frame rates may be utilized, and fails to in any way disclose a pre-determination of the amount of data which will be stored after an event.

Claims 1-4, 15 and 44-45 stand rejected under 35 USC §103(a) as obvious over Gustin (U.S. Patent No. 5,056,056) in view of Nishijima (U.S. Patent No. 5,915,069).

Independent claims 1 and 15 require that data be stored such that each image represented by the stored data associated with a portion of the time closer to an event has a first image resolution and each image represented by the stored data associated with a portion of the time period further from the event and has a second image resolution, different than the first image resolution. Independent claim 44 requires that data be stored such that each image represented by the stored data associated with a portion of the time period after receipt of the event signal has a first image resolution and each image represented by the stored data associated with a portion of the time prior to receipt of the event signal has a second image resolution lower than the first resolution. Independent claim 44 further requires at least one first sensor type operative to generate image data associated with a period of time, at least one second sensor type operative to generate a signal representing an event, and at least one circular buffer memory for storing the data.

The Examiner points to Gustin as disclosing the required storage of data, referencing column 4, lines 39-60. As best understood, while acknowledging that Gustin lacks any teaching or suggestion that the disclosed system is adapted for use with image data, the Examiner proposes to modify Gustin based upon the teaching of Nishijima, to make obvious the invention of claims 1, 15 and 44.

Gustin discloses a system for sensing various operational parameters, similar to the above discussed Coiner reference. In particular, Gustin is directed to sensing non-image data (such as pressure or acceleration data) associated, for example, with crash test of vehicles. As discussed in column 4, lines 9–60, according to Gustin data is continuously written into memory until a start signal is generated in response to a triggering event. The triggering event is described to occur when the received data exceeds some predetermine threshold. The start signal is generated based on either a user input or the input data itself. Responsive to the start signal, a trigger timer is set which controls the proportion of data recorded before and after the triggering event. The data acquisition rate may be adjusted so that, for example, sensed pressures or accelerations that are stored have a variable periodicity. However, notwithstanding the periodicity, all of the acquired data at the particular time interval is stored.

As discussed above, Nishijima also fails to teach or suggest storing image data at different resolutions. Rather, as summarized by Nishijima in column 9, line 64 through column 10, line 38, Nishijima discloses compressing video data at different compression rates to extend the recording time of a standard length magnetic tape or other recording medium. This has nothing whatsoever to do with storing images at different resolutions. Rather, as discussed in the referenced text, by using the described compression technique, it is unnecessary to intermittently record the video signal to extend the recording time of the magnetic tape. Thus, continuous recording can be utilized throughout the entire recording process to ensure that every moment of the surveillance is recorded at the same frame rate to provide a recorded video signal that is useful for inspection for viewing and/or processing purposes. If continuous

recording is not needed during particular instances, intermittent recording can also be selected to further extend the recording length of the recording medium.

Nishijima goes on to disclose in the referenced text that although changing a quantization table to vary the compression ratio at which a video signal is compressed is discussed, other techniques such as intraframe/interframe encoding techniques may be utilized in place of the quantization table technique to perform the compression. It is perhaps worth highlighting again that Nishijima does not in any way suggest that the selected compression rate or technique will effect the ultimate resolution of the image.

Accordingly, even if one were motivated to attempt to adapt Gustin's teaching to image data (which is entirely unmotivated by the applied art as discussed above) and could somehow determine how to modify the components of Gustin's non-image system to sense and record image data (it being entirely unclear as to how this could be accomplished), this would, at best, result in a system which modifies the periodicity or frequency at which images are stored, but would not in any way result in different resolution images being stored. That is, at best the proposed combination would result in a system which varies the rate at which data is acquired and stored, and would not result in the storage of images having different image resolutions.

Furthermore, contrary to the Examiner's assertion, Gustin discloses only the use of data sensors. As disclosed in the Examiner referenced text of column 4, lines 15-54, Gustin expressly discloses that there is no second sensor type for generating a signal representing an event. Rather the processor generates a signal representing the event based upon a threshold being exceeded by the data being stored. Accordingly the applied combination lacks any teaching or suggestion of the limitations of claims 2 and 44.

Since Gustin lacks the required second sensor type of claim 2, it also lacks, in contradiction to the Examiner's asserted position, any teaching or suggestion that such a sensor type be an accelerometer. Gustin's acceleration sensor outputs data for storage rather than outputting a signal representing an event, as required by claim 3.

Claim 45 also requires a user activated purge switch which can be operated such that the data stored in the memory is erased following user activation of the purge switch, and a user activated still switch which can be operated such that the control processor stores a single data sample following user activation of the still switch.

With regards to the purge switch, the Examiner asserts that although Gustin discloses a memory backup to ensure that recorded data are not purged when power is turned off, somehow the user could turn off power to the backup memory to purge the memory. It is respectfully submitted that this is pure speculation on the Examiner's part.

With regard to still recording, the Examiner asserts that "If a user activated still recording of a single data sample as claimed is desirable, it is viewed that such capability is obvious in view of Gustin since such function is within the confine of the user generated start signal and user selected recording time and recording rate as disclosed in Gustin". The rationale for the Examiner's assertion is neither understood nor supported by the Gustin disclosure. It is respectfully submitted that the Examiner is using hindsight to reconstruct the invention in accordance with the present application disclosure.

Referring now to the Examiner's Remarks beginning on page 5 of the Final Official Action, the Examiner asserts that the remarks submitted in the prior response relating to the non-correspondence between varying image resolutions and varying compression rates "has nothing to do with the merits of independent claims 1, 15 and 44."

On the contrary, it is respectfully submitted that in four years of prosecution the Examiner has yet to identify any art which suggests, let alone teaches, that a variation in the compression rate will result in a variation of image resolution. In fact, Nishijima does not in any way suggest a variation of resolution, but explicitly discloses that the conventional compression techniques are utilized.

Hence, the fact that Nishijima's varying of the compression rate does not correspond to the varying of the image resolution of image data which is stored is clearly relevant to the merits of the independent claims. The Examiner's contention that column 4, lines 39-60, of Nishijima discloses different resolution data being stored, as discussed in some detail above, is simply incorrect.

Hence, the applied combinations of art fail to suggest the invention as recited in claims 1-4, 9, 15, 20-21, 32-35, and 40-45.

5. THE REJECTION IS BASED ON EITHER AN IMPROPER HINDSIGHT RECONSTRUCTION OF THE INVENTION BASED ON THE APPLICATIONS OWN TEACHINGS OR ON PURE SPECULATION

Hindsight obviousness after the invention has been made is not the test. In re Carroll, 601 F2d 1184, 202 USPQ 571 (CCPA 1979). The reference, viewed by itself and not in retrospect, must suggest doing what applicant has done. In re Shaffer, 229 F2d 476, 108 USPQ 326 (CCPA 1956); In re Skoll, 523 F2d 1392, 187 USPQ 481 (CCPA 1975).

Inherency requires certainty, not speculation. In re Rijckaert, 9 F.3rd 1531, 28 USPQ2d 1955 (Fed. Cir. 1993); In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986); W. L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983); In re Oelrich, 666 F.2d 578, 212 USPQ 323 (CCPA 1981); In re Wilding, 535 F.2d 631, 190 USPQ 59 (CCPA 1976). Objective evidence must be relied upon to defeat the patentability of the claimed invention. Ex parte Natale, 11 USPQ2d 1222 (BPAI 1988).

As discussed in detail above, the appealed claims have been rejected without objective factual support or rational. The prior art cited in support of the rejections has been applied in a manner inconsistent with its own teachings. Combinations have been asserted for which no motivation exist. Express limitations set forth in the claims have been completely or effectively ignored. The evidence shows that there is nothing in the

applied prior art to support the Examiner's position that the present claims are anticipated or obvious, Hence, at best, it can only be concluded that the rejection of the claims, as set out in the Final Official Action, reflects either an improper hindsight reconstruction of the invention based on the teachings of the subject application itself or pure speculation on the part of the Examiner.

CONCLUSION

It is respectfully submitted that the Examiner (i) has infringed applicants rights to due process in the prosecution of the subject application, (ii) has failed to establish a prima facie case for the rejection, (iii) has proposed to combine art in a manner which is unmotivated, (iv) has failed to apply art which teaches or suggests the claimed invention, and (v) has, at best, attempted to improper reconstruct the invention using the inventors own disclosure or relied on pure speculation in rejecting the claims. Thus, the rejection of the pending claims as anticipated under 35 U.S.C. §102(e) or obvious under 35 U.S.C. §103(a) over the applied prior art, whether taken individually or in any combination, is improper.

In summary, Applicants respectfully submit that the applied references do not teach or suggest features recited in each of the rejected independent claims. Furthermore, the proposed combinations of the applied references are themselves unmotivated and therefore improper. Accordingly, it is submitted that the art does not provide any teaching, or suggestion within its teachings, which would lead to the features or advantages of the instant invention, and the claims patentably define over the art. Thus, the rejection of the pending claims under 35 U.S.C. §102(e) and 35 U.S.C. §103(a) is in error, and reversal is clearly in order and is courteously solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of

this paper, including extension of time fees, to Deposit Account 01-2135 and please credit any excess fees to such deposit account.

Respectfully Submitted,

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APPENDIX OF CLAIMS UNDER APPEAL

1. A recording device for capturing data, said recording device comprising:

at least one memory for storing image data associated with a time period; and

a control processor operative to store the data in the at least one memory;

wherein each image represented by the stored data associated with a portion of the time period closer to an event has a first image resolution and each image represented by the stored data associated with a portion of the time period further from the event has a second image resolution different than the first resolution.

2. The device of claim 1, wherein said device further comprises:

at least one first sensor type operative to generate the data; and

at least one second sensor type operative to generate a signal representing the event;

wherein each image represented by the stored data associated with the portion of the time period closer to the event has the first resolution responsive to the signal.

3. The device of claim 2, wherein said at least one second sensor type includes an accelerometer.

4. The device of claim 1, further comprising:

a capture switch;

wherein the control processor is operative to store only a predetermined amount of data within said memory following user activation of said capture switch.

5. The device of claim 1, wherein:

the data is video data representing a plurality of frames; and

the processor is operative such that a number of the plurality of frames per a unit

of time represented by the stored video data associated with the portion of the time period closer to the event is greater than a number of the plurality of frames per the unit of time represented by the stored video data associated with the portion of the time period further from the event.

6. The device of claim 1, wherein said control processor is further operative to compress the data associated with the portion of the time period closer to the event at a first compression ratio and to compress the data associated with the portion of the time period further from the event at a second compression ratio different than the first compression ratio, prior to the storage of the data within said memory.

7. (Twice Amended) The device of claim 1, wherein:

the data is video data; and

the data stored in said memory has a first frame rate prior to the event and has a second frame rate subsequent to the event.

8. The device of claim 1, wherein said second resolution is less than said first resolution.

9. The device of claim 1, wherein said control processor is operative to store the data only in approximately one-half the memory following the event.

10. The device of claim 1, further comprising:

a plurality of sensors each operative to generate a respective portion of the data;

wherein said at least one memory is a plurality of memories corresponding in number to said plurality of sensors;

wherein said control processor is operative to store the respective portions of data generated by each of said plurality of sensors in a respective one of said plurality

of memories.

11. The device of claim 1, further comprising:

an image sensor, including a charge coupled device, operative to generate the data.

12. The device of claim 11, further comprising:

a lens positioned so as to focus an image on said image sensor to cover a viewing angle.

13. The device of claim 1, further comprising:

an image sensor, including an artificial retina, operative to generate the data.

14. The device of claim 13, further comprising:

a lens positioned so as to focus an image on said artificial retina to cover a viewing angle.

15. A method for recording data, comprising the steps of:

storing first image data associated with a time period closer to an event, wherein each image represented by the stored first image data has a first image resolution; and

storing second image data associated with a time period further from said event, wherein each image represented by the stored second image data has a second image resolution different than the first resolution.

16. The method of claim 15, further comprising the step of:

compressing said first data and said second data prior to storing said first data and said second data.

17. The method of claim 16, wherein said compressing is performed with an asymmetric compression routine.

18. The method of claim 16, further comprising the step of encrypting said first data and said second data prior to storing said first data and said second data.

19. The method of claim 15, wherein:

the stored first data is first video data and the stored second data is second video data;

said stored first video data has a first frame rate; and

said stored second video data has a second frame rate.

20. The method of claim 19, wherein said second rate is greater than said first rate.

21. The method of claim 19, wherein said second rate is less than said first rate.

32. The device of claim 1, further comprising a tamper resistant housing configured to house the control processor and the memory.

33. The device of claim 32, wherein said housing is portable.

34. The device of claim 1, wherein said control processor is further operative to purge the contents of said at least one memory upon user activation of a switch.

35. The device of claim 1, wherein the first resolution is exponentially higher than the second resolution.

36. The device of claim 1, wherein the control processor is operative to encrypt the data prior to storage in the memory.

37. The device of claim 1, wherein the first and the second resolutions are at least one of temporal resolutions and spatial resolutions.

38. The device of claim 1, wherein the control processor is operative to compress the data associated with the portion of the time period closer to an event at a first compression ratio and the data associated with the portion of the time period further from an event at a second compression ratio different than the first compression ratio.

39. The device according to claim 1, wherein the first and the second resolutions are temporal resolutions and the control processor is operative to store, on a per unit of time basis, more of the data associated with the portion of the time period closer to an event and less of the data associated with the portion of the time period further from an event.

40. The device of claim 1, wherein the control processor is operative to store only a predetermined amount of data following the event.

41. The method of claim 15, further comprising the steps of:
storing said data at the second resolution prior to the event; and
storing said data at the first resolution subsequent to the event.

42. The method of claim 15, wherein said first resolution is higher than said second resolution.

43. The method of claim 15, wherein the first resolution is exponentially higher than the second resolution.

44. A compact portable device for recording data with no moving parts, said recording device comprising:

at least one first sensor type operative to generate image data associated with a period of time;

at least one second sensor type operative to generate a signal representing an event;

at least one circular buffer memory for storing the data;

a control processor operative to receive the signal representing the event and to store the data in the at least one circular buffer memory, wherein each image represented by the stored data associated with a portion of the time period after receipt of the event signal has a first image resolution and each image represented by the stored data associated with a portion of the time prior to receipt of the event signal has a second image resolution lower than the first resolution;

a portable housing configured to house the control processor and the memory; and

at least one connector disposed on said housing for outputting the stored data.

45. The device of claim 44, further comprising:

a user activated capture switch, wherein the control processor is operative to store only a predetermined amount of data within the at least one circular buffer memory following user activation of the capture switch;

a user activated purge switch, wherein the data stored in the memory is erased following user activation of the purge switch;

a user activated still switch, wherein the control processor is operative to store a single data sample following user activation of the still switch; and

at least one power source for powering the at least one first sensor type, the processor, and the at least one circular buffer memory;

wherein the housing is a tamper resistant housing and is further configured to house the at least one first sensor type.